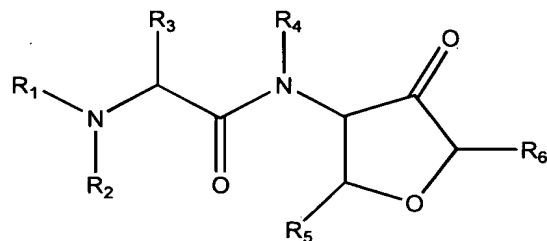


**Claims**

1. A compound according to formula (II):



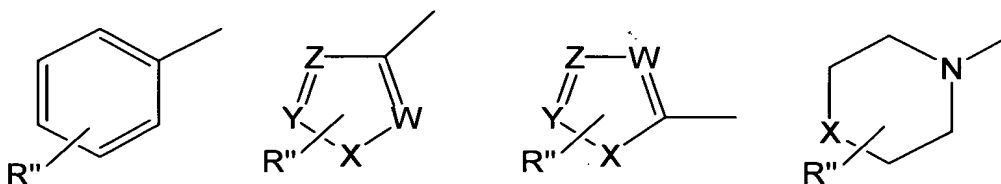
(II)

wherein:

wherein:

$R_1 = R', R'C(O), R'C(S), R'SO_2, R'OC(O), R'NHC(O)$

$R' =$



$X, = O, S, NH, W, Y, Z = CH, N;$

$R'' =$  single or multiple ring substitution combinations taken from:

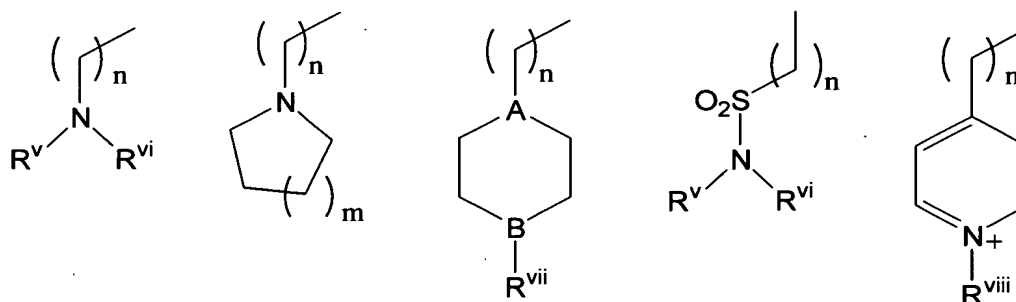
H, C1-7-alkyl, C3-6-cycloalkyl, OH, SH, amine, halogen;

$R_2, R_4 = H, C1-7-alkyl, C3-7-cycloalkyl;$

$R_3 = C1-7-alkyl, C3-7-cycloalkyl, Ar-C1-7-alkyl;$

$R_5 = C1-7-alkyl, halogen, Ar-C1-7-alkyl, C1-3-alkyl-CONR^{iv}$  or  $R^{iv};$

$R^{iv} =$



where  $n = 1-3$ ,  $m = 1-3$ ;

$R^v, R^{vi} = H, C1-7\text{-alkyl}$ ;

$A = N, CH$ ;

$B = N, O, S, CH$ ;

$R^{vii} = \text{absent when } B = O, S; \text{ or } R^{vii} = H, C1-7\text{-alkyl when } B = N, CH$ ;

$R^{viii} = O, C1-7\text{-alkyl}$ ;

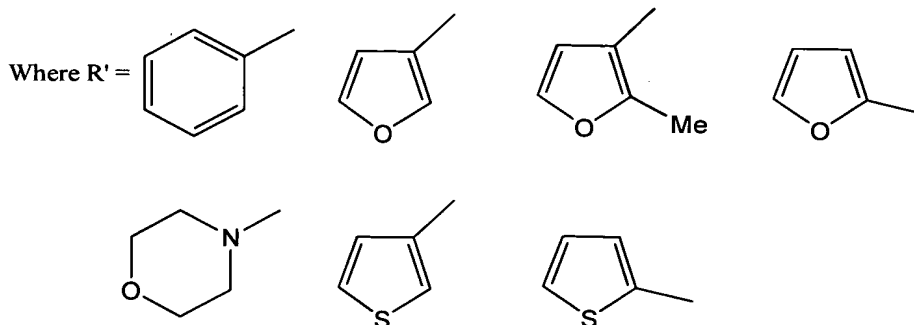
$R6 = H, C1-7\text{-alkyl, Ar- } C1-7\text{-alkyl, } C1-3\text{-alkyl-SO}_2\text{-}R^{ix}$ ,

$C1-3\text{-alkyl-C(O)-NHR}^{ix}$  or  $CH_2XAr$ ;

and pharmaceutically acceptable salts thereof.

2. A compound according to claim 1, wherein  $R2$  and/or  $R4$  are hydrogen.

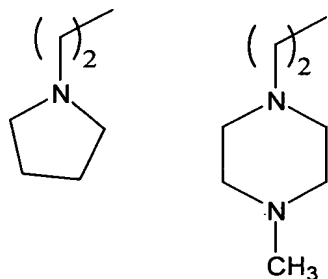
3. A compound according to claim 1, wherein  $R1$  is  $R'C(O)$ ,



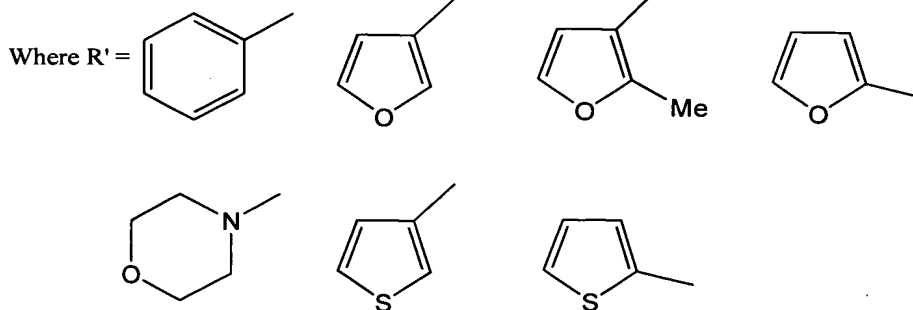
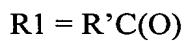
4. A compound according to claim 3, wherein  $R'$  is fur-3-yl or thien-3-yl

5. A compound according to claim 1, wherein  $R3$  is n-butyl, t-butyl, 3-(2,2-dimethylpropyl), 4-(2-methylbutyl), 4-(3,3-dimethylbutyl), 4-(3,3-dimethyl-2-methylbutyl), 4-(3-methyl-2-methylbutyl) or 5-(2-methyl-3-methylpentyl).

6. A compound according to claim 5, wherein R3 is t-butyl, 3-(2,2-dimethylpropyl) or 4-(3,3-dimethyl-2-methylbutyl).
7. A compound according to claim 1, wherein R5 is CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, CH<sub>2</sub>Ar, CH<sub>2</sub>CONH<sub>2</sub>, (CH<sub>2</sub>)<sub>2</sub>CONH<sub>2</sub>,

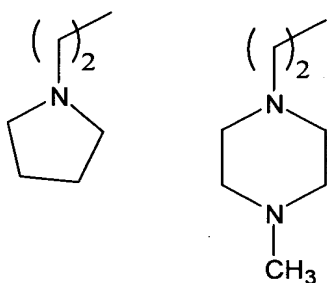


8. A compound according to claim 7, wherein R5 is CH<sub>3</sub> or CH<sub>2</sub>CH<sub>3</sub>.
9. A compound according to claim 1, wherein R5 has (S) stereochemistry.
10. A compound according to claim 1, wherein R6 is H or CH<sub>2</sub>XAr.
11. A compound according to claim 1, wherein



R3 = n-butyl, t-butyl, 3-(2,2-dimethylpropyl), 4-(2-methylbutyl), 4-(3,3-dimethylbutyl), 4-(3,3-dimethyl-2-methylbutyl), 4-(3-methyl-2-methylbutyl), 5-(2-methyl-3-methylpentyl);

R5 = CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, CH<sub>2</sub>Ar, CH<sub>2</sub>CONH<sub>2</sub>, (CH<sub>2</sub>)<sub>2</sub>CONH<sub>2</sub>,



R6 = H, CH<sub>2</sub>-X-Ar or a pharmaceutically acceptable salt thereof

12. A compound which is selected from the group consisting of:

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)butyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylbutyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylbutyl}amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

Furan-3-carboxylic acid [4-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [4-methyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-methylpentyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4-methylpentyl}amide,

Furan-3-carboxylic acid [4-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylpentyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylpentyl}amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [3,3,4-trimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [3,3,4-trimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3,4-trimethylpentyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3,4-trimethylpentyl}amide,

Furan-3-carboxylic acid [3,3,4-trimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [3,4-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [3,4-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,4-dimethylpentyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,4-dimethylpentyl}amide,

Furan-3-carboxylic acid [3,4-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Furan-3-carboxylic acid [4,5-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)hexyl]amide,

Furan-3-carboxylic acid [4,5-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4,5-dimethylhexyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4,5-dimethylhexyl}amide,

Furan-3-carboxylic acid [4,5-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

Furan-3-carboxylic acid [3-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-3-phenylbutyl]amide,

Furan-3-carboxylic acid [3-methyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-methyl-3-phenylbutyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3-methyl-3-phenylbutyl}amide,

Furan-3-carboxylic acid [3-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-4-phenylbutyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-4-phenylbutyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-4-phenylbutyl}amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-5-phenylpentyl]amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,

Furan-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-5-phenylpentyl]amide,

Furan-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-5-phenylpentyl}amide,

Furan-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)butyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylbutyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylbutyl}amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

Thiophene-3-carboxylic acid [4-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [4-methyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-methylpentyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4-methylpentyl}amide,

Thiophene-3-carboxylic acid [4-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylpentyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylpentyl}amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [3,3,4-trimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [3,3,4-trimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3,4-trimethylpentyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3,4-trimethylpentyl}amide,

Thiophene-3-carboxylic acid [3,3,4-trimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [3,4-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [3,4-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,4-dimethylpentyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,4-dimethylpentyl}amide,

Thiophene-3-carboxylic acid [3,4-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Thiophene-3-carboxylic acid [4,5-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)hexyl]amide,

Thiophene-3-carboxylic acid [4,5-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4,5-dimethylhexyl]amide,



Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4,5-dimethylhexyl}amide,

Thiophene-3-carboxylic acid [4,5-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

Thiophene-3-carboxylic acid [3-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-3-phenylbutyl]amide,

Thiophene-3-carboxylic acid [3-methyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-methyl-3-phenylbutyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3-methyl-3-phenylbutyl}amide,

Thiophene-3-carboxylic acid [3-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-4-phenylbutyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-4-phenylbutyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-4-phenylbutyl}amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-5-phenylpentyl]amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,

Thiophene-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-5-phenylpentyl]amide,

Thiophene-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-5-phenylpentyl}amide,

Thiophene-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,

2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)butyl]amide,

2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylbutyl]amide,

2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylbutyl}amide,

2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

2-Methylfuran-3-carboxylic acid [4-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

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2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-methylpentyl]amide,

2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4-methylpentyl}amide,

2-Methylfuran-3-carboxylic acid [4-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

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2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylpentyl]amide,

2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylpentyl}amide,

2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

- 2-Methylfuran-3-carboxylic acid [3,3,4-trimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,3,4-trimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3,4-trimethylpentyl]amide,
- 2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3,4-trimethylpentyl}amide,
- 2-Methylfuran-3-carboxylic acid [3,3,4-trimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,4-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,4-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,4-dimethylpentyl]amide,
- 2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,4-dimethylpentyl}amide,
- 2-Methylfuran-3-carboxylic acid [3,4-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 2-Methylfuran-3-carboxylic acid [4,5-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)hexyl]amide,
- 2-Methylfuran-3-carboxylic acid [4,5-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,
- 2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4,5-dimethylhexyl]amide,
- 2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4,5-dimethylhexyl}amide,
- 2-Methylfuran-3-carboxylic acid [4,5-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,
- 2-Methylfuran-3-carboxylic acid [3-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-3-phenylbutyl]amide,

- 2-Methylfuran-3-carboxylic acid [3-methyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-methyl-3-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3-methyl-3-phenylbutyl}amide,
- 2-Methylfuran-3-carboxylic acid [3-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-4-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-4-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-4-phenylbutyl}amide,
- 2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-5-phenylpentyl]amide,
- 2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,
- 2-Methylfuran-3-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-5-phenylpentyl]amide,
- 2-Methylfuran-3-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-5-phenylpentyl}amide,
- 2-Methylfuran-3-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)butyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,

- 1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylbutyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylbutyl}amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [4-methyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [4-methyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-methylpentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4-methylpentyl}amide,
- 1*H*-Pyrrole-3-carboxylic acid [4-methyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylpentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylpentyl}amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3,4-trimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [3,3,4-trimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,
- 1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3,4-trimethylpentyl]amide,

1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3,4-trimethylpentyl}amide,

1*H*-Pyrrole-3-carboxylic acid [3,3,4-trimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

1*H*-Pyrrole-3-carboxylic acid [3,4-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

1*H*-Pyrrole-3-carboxylic acid [3,4-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,4-dimethylpentyl]amide,

1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,4-dimethylpentyl}amide,

1*H*-Pyrrole-3-carboxylic acid [3,4-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

1*H*-Pyrrole-3-carboxylic acid [4,5-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

1*H*-Pyrrole-3-carboxylic acid [4,5-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4,5-dimethylhexyl]amide,

1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4,5-dimethylhexyl}amide,

1*H*-Pyrrole-3-carboxylic acid [4,5-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

1*H*-Pyrrole-3-carboxylic acid [3-methyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

1*H*-Pyrrole-3-carboxylic acid [3-methyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-methyl-3-phenylbutyl]amide,

1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3-methyl-3-phenylbutyl}amide,

1*H*-Pyrrole-3-carboxylic acid [3-methyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,  
1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,  
1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,  
1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-4-phenylbutyl]amide,  
1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-4-phenylbutyl}amide,  
1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,  
1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,  
1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,  
1*H*-Pyrrole-3-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-5-phenylpentyl]amide,  
1*H*-Pyrrole-3-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-5-phenylpentyl}amide,  
1*H*-Pyrrole-3-carboxylic acid [3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,  
*N*-[3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]benzamide,  
*N*-[3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylbutyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylbutyl}benzamide,  
*N*-[3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)butyl]benzamide,  
*N*-[4-methyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,

*N*-[4-methyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-methylpentyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4-methylpentyl}benzamide,  
*N*-[4-methyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylpentyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylpentyl}benzamide,  
*N*-[3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide, *N*-[3,3,4-trimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[3,3,4-trimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3,4-trimethylpentyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3,4-trimethylpentyl}benzamide,  
*N*-[3,3,4-trimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[3,4-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[3,4-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,4-dimethylpentyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,4-dimethylpentyl}benzamide,



*N*-[3,4-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]benzamide,  
*N*-[4,5-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3*S*-ylcarbamoyl)hexyl]benzamide,  
*N*-[4,5-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4,5-dimethylhexyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4,5-dimethylhexyl}benzamide,  
*N*-[4,5-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)hexyl]benzamide,  
*N*-[3-methyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3*S*-ylcarbamoyl)-3-phenylbutyl]benzamide,  
*N*-[3-methyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-methyl-3-phenylbutyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3-methyl-3-phenylbutyl}benzamide,  
*N*-[3-methyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]benzamide,  
*N*-[3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3*S*-ylcarbamoyl)-4-phenylbutyl]benzamide,  
*N*-[3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-4-phenylbutyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-4-phenylbutyl}benzamide,  
*N*-[3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]benzamide,

*N*-[3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3*S*-ylcarbamoyl)-5-phenylpentyl]benzamide,  
*N*-[3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]benzamide,  
*N*-[1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-5-phenylpentyl]benzamide,  
*N*-{1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-5-phenylpentyl}benzamide,  
*N*-[3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]benzamide,  
Morpholine-4-carboxylic acid [3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,  
Morpholine-4-carboxylic acid [3,3-dimethyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,  
Morpholine-4-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylbutyl]amide,  
Morpholine-4-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylbutyl}amide,  
Morpholine-4-carboxylic acid [3,3-dimethyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)butyl]amide,  
Morpholine-4-carboxylic acid [4-methyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,  
Morpholine-4-carboxylic acid [4-methyl-1*S*-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,  
Morpholine-4-carboxylic acid [1*S*-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-methylpentyl]amide,  
Morpholine-4-carboxylic acid {1*S*-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4-methylpentyl}amide,  
Morpholine-4-carboxylic acid [4-methyl-1*S*-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,  
Morpholine-4-carboxylic acid [3,3-dimethyl-1*S*-(2*S*-methyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethylpentyl]amide,

Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethylpentyl}amide,

Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [3,3,4-trimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [3,3,4-trimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3,4-trimethylpentyl]amide,

Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3,4-trimethylpentyl}amide,

Morpholine-4-carboxylic acid [3,3,4-trimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [3,4-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [3,4-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,4-dimethylpentyl]amide,

Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,4-dimethylpentyl}amide,

Morpholine-4-carboxylic acid [3,4-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)pentyl]amide,

Morpholine-4-carboxylic acid [4,5-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)hexyl]amide,

Morpholine-4-carboxylic acid [4,5-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4,5-dimethylhexyl]amide,

Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-4,5-dimethylhexyl}amide,

Morpholine-4-carboxylic acid [4,5-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)hexyl]amide,

Morpholine-4-carboxylic acid [3-methyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-3-phenylbutyl]amide,

Morpholine-4-carboxylic acid [3-methyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3-methyl-3-phenylbutyl]amide,

Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3-methyl-3-phenylbutyl}amide,

Morpholine-4-carboxylic acid [3-methyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-3-phenylbutyl]amide,

Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-4-phenylbutyl]amide,

Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-4-phenylbutyl]amide,

Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-4-phenylbutyl}amide,

Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-4-phenylbutyl]amide,

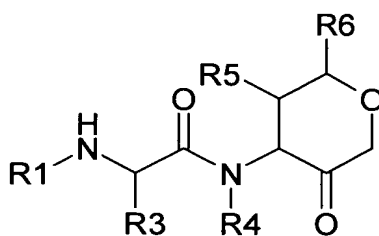
Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(2S-methyl-4-oxo-tetrahydrofuran-3S-ylcarbamoyl)-5-phenylpentyl]amide,

Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(2-ethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,

Morpholine-4-carboxylic acid [1S-(2-carbamoylmethyl-4-oxo-tetrahydrofuran-3-ylcarbamoyl)-3,3-dimethyl-5-phenylpentyl]amide,

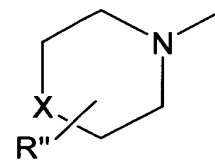
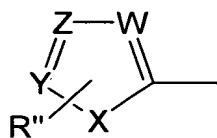
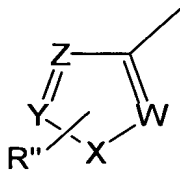
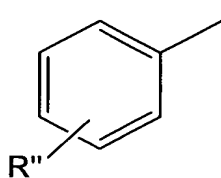
Morpholine-4-carboxylic acid {1S-[2-(2-dimethylaminoethyl)-4-oxo-tetrahydrofuran-3-ylcarbamoyl]-3,3-dimethyl-5-phenylpentyl}amide,  
 Morpholine-4-carboxylic acid [3,3-dimethyl-1S-(4-oxo-2-pyrrolidin-1-ylmethyl-tetrahydrofuran-3-ylcarbamoyl)-5-phenylpentyl]amide,  
 or a pharmaceutically acceptable salt thereof.

13. A pharmaceutical composition comprising a compound according to any preceding claim and a pharmaceutically acceptable carrier.
14. A method of inhibiting the cysteine protease Cathepsin S which comprises administering to a patient in need thereof an effective amount of a compound according to claim 1.
15. A method of inhibiting the cysteine protease Cathepsin S which comprises administering to a patient in need thereof an effective amount of a composition according to claim 13.
16. A compound of the formula IV



where

R1 is R'C(=O)- or R'-S(=O)<sub>2</sub>-  
 R' is



X, = O, S, NH,

W, Y, Z = CH, N;

R'' = single or multiple ring substitution combinations taken from:

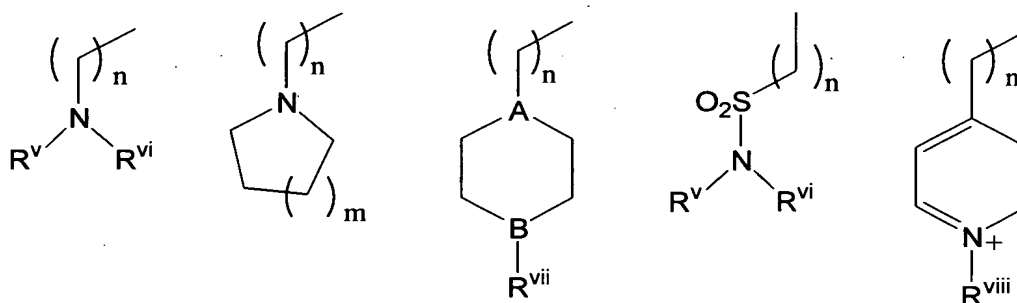
H, C1-7-alkyl, C3-6-cycloalkyl, OH, SH, amine, halogen;

R3 = C1-7-alkyl, C2-C7 alkenyl, C3-7-cycloalkyl, Ar, Ar-C1-7-alkyl, Ar-C1-C7-alkyl;

R4 = H, C1-7-alkyl, C3-7-cycloalkyl; C2-7alkenyl, Ar, ArC1-7-alkyl;

R5 = C1-7-alkyl, hydroxy- or halo-substituted C1-C7alkyl, halogen, Ar-C1-7-alkyl, C0-3-alkyl-CONR3R4 or R<sup>iv</sup>;

R<sup>iv</sup> =



where n = 1-3, m = 1-3;

R<sup>v</sup>, R<sup>vi</sup> = H, C1-7-alkyl;

A = N, CH;

B = N, O, S, CH;

R<sup>vii</sup> = absent when B = O, S; or R<sup>vii</sup> = H, C1-7-alkyl when B = N, CH;

R<sup>viii</sup> = O, C1-7-alkyl;

R6 = H, C1-7-alkyl, Ar-C1-7-alkyl, C1-3-alkyl-SO<sub>2</sub>-R<sup>ix</sup>, C1-3-alkyl-C(O)-NHR<sup>ix</sup> or CH<sub>2</sub>XAr;

R<sup>ix</sup> is C1-7 alkyl, ArC1-7-alkyl or C3-6-cycloalkyl;

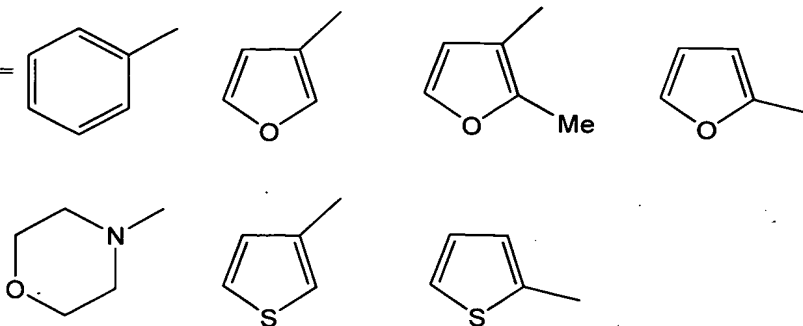
and pharmaceutically acceptable salts thereof.

17. A compound according to claim 16, wherein R4 and/or R6 are hydrogen.

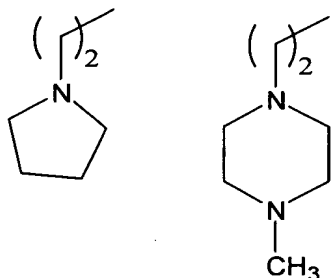
18. A compound according to claim 16, wherein R1 is R'C(O).

19. A compound according to claim 18,

Where R' =



20. A compound according to claim 19, wherein R' is fur-3-yl or thien-3-yl.
21. A compound according to claim 19, wherein R' is phenyl having multiple substitutions selected from C1-7 alkyl, C3-6-cycloalkyl, OH, SH, amine and halogen.
22. A compound according to claim 21 wherein the substitutions are at the 3 and 4 position of the phenyl.
23. A compound according to claim 16 wherein R3 has the S stereochemistry.
24. A compound according to claim 23, wherein R3 is n-butyl, t-butyl, 3-(2,2-dimethylpropyl), 4-(2-methylbutyl), 4-(3,3-dimethylbutyl), 4-(3,3-dimethyl-2-methylbutyl), 4-(3-methyl-2-methylbutyl) or 5-(2-methyl-3-methylpentyl).
25. A compound according to claim 24, wherein R3 is t-butyl, 3-(2,2-dimethylpropyl) or 4-(3,3-dimethyl-2-methylbutyl).
26. A compound according to claim 16, wherein R3 is C3-C6 cycloalkyl.
27. A compound according to claim 26 wherein R3 is the side chain of L-cyclohexylalanine or L-cyclopentylalanine.
28. A compound according to claim 16, wherein R5 is CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, CH<sub>2</sub>OH, CH<sub>2</sub>Ar, CH<sub>2</sub>CONH<sub>2</sub>, (CH<sub>2</sub>)<sub>2</sub>CONH<sub>2</sub>,



29. A compound according to claim 28, wherein R5 is CH<sub>3</sub>, CH<sub>2</sub>CH<sub>3</sub> or CH<sub>2</sub>OH.
30. A compound according to claim 16, wherein R5 has (S) stereochemistry.
31. A compound according to claim 30, wherein the pyranone 4-bond also has the (S) stereochemistry.
32. A compound according to claim 16 wherein R5 has the (R) stereochemistry.
33. A compound according to claim 32 wherein the pyranone 4-bond also has the (R) stereochemistry.
34. A compound selected from the group consisting of
- Furan-3-carboxylic acid (1S)-[3,3-dimethyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-amide
  - Furan-3-carboxylic acid (1S)-[2-cyclohexyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-amide
  - (1S)-N-[3,3-Dimethyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-benzamide
  - (1S)-N-[2-Cyclohexyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-benzamide
  - (1S)-N-[3,3-Dimethyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-4-hydroxy-3-methyl-benzamide
  - (1S)-N-[2-Cyclohexyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-4-hydroxy-3-methyl-benzamide
  - Furan-3-carboxylic acid (1S)-[2-cyclopentyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-amide
  - (1S)-N-[2-Cyclopentyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-benzamide
  - (1S)-N-[2-Cyclopentyl-1-(3-methyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-4-hydroxy-3-methyl-benzamide



Furan-3-carboxylic acid (1*S*)-[3,3-dimethyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-amide  
Furan-3-carboxylic acid (1*S*)-[2-cyclohexyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-amide  
(1*S*)-*N*-[3,3-Dimethyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-benzamide  
(1*S*)-*N*-[2-Cyclohexyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-benzamide  
(1*S*)-*N*-[3,3-Dimethyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-4-hydroxy-3-methyl-benzamide  
(1*S*)-*N*-[2-Cyclohexyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-4-hydroxy-3-methyl-benzamide  
Furan-3-carboxylic acid (1*S*)-[2-cyclopentyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-amide  
(1*S*)-*N*-[2-Cyclopentyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-benzamide  
(1*S*)-*N*-[2-Cyclopentyl-1-(3-ethyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-4-hydroxy-3-methyl-benzamide

Furan-3-carboxylic acid (1*S*)-[3,3-dimethyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-amide  
Furan-3-carboxylic acid (1*S*)-[2-cyclohexyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-amide  
(1*S*)-*N*-[3,3-Dimethyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-benzamide  
(1*S*)-*N*-[2-Cyclohexyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-benzamide  
(1*S*)-*N*-[3,3-Dimethyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-butyl]-4-hydroxy-3-methyl-benzamide  
(1*S*)-*N*-[2-Cyclohexyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-4-hydroxy-3-methyl-benzamide  
Furan-3-carboxylic acid (1*S*)-[2-cyclopentyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-amide  
(1*S*)-*N*-[2-Cyclopentyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-benzamide  
(1*S*)-*N*-[2-Cyclopentyl-1-(3-propyl-5-oxo-tetrahydro-pyran-4-ylcarbamoyl)-ethyl]-4-hydroxy-3-methyl-benzamide  
and pharmaceutically acceptable salts thereof

35. A compound according to claim 34 having the 3*S*,4*S* configuration.

36. A compound according to claim 34 having the 3*R*,4*R* configuration.

37. A pharmaceutical composition comprising a compound according to claim 16 and a pharmaceutically acceptable carrier.
38. A pharmaceutical composition comprising a compound according to claim 34 and a pharmaceutically acceptable carrier.
39. A method of inhibiting the cysteine protease Cathepsin S which comprises administering to a patient in need thereof an effective amount of a compound according to claim 16.
40. A method for the preparation of a compound as defined in claim 16, comprising the steps of manipulating the protecting groups on a suitably protected carbohydrate derivative to effect deoxygenation at the anomeric position, introducing the R<sup>5</sup> substituent via a ketone functionality, for example by Wittig chemistry, introducing the 4-amino group by further manipulation of the remaining carbohydrate oxygen functionality to provide a protected 4-amino-5-substituted pyranone, N-extending the amine function using peptide chemistry and adding the R'C(=O) or R'S(=O)<sub>2</sub> capping group.
41. A method for the preparation of a compound as defined in claim 16, comprising the steps of diazotising an O-protected, acyclic carboxylic derivative of a suitably derivatised 3-amino-4-substituted lactone, cyclising the diazomethylketone produced to afford a protected 4-amino-5-substituted pyranone, N-extending the amine function using peptide chemistry and adding the R'C(=O) or R'S(=O)<sub>2</sub> capping group